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10/021,072	12/19/2001	Masutsugu Tasaki	TASA3001/JDB	6223

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EXAMINER

WANG, GEORGE Y

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 07/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/021,072

Applicant(s)

TASAKI ET AL.

Examiner

George Y. Wang

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) 6 and 17 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to because Figures 1-8 are labeled in a non-English language and Figure 5-8 are referenced in a non-English as well. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The abstract of the disclosure is objected to because the abstract is too long and is split into two paragraphs. Applicant is reminded that the abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. Correction is required. See MPEP § 608.01(b).

Claim Objections

3. Claim 17 recites the limitation "further," in which there is insufficient antecedent basis for this limitation in the claim since it is not dependent upon any other claim.
(Note: Examiner will proceed to examine the claim as dependent from claim 16).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-8, 10, and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Barish (U.S. Patent No. 3,894,183) and Nagy et al. (U.S. Patent No. 4,025,688, from hereinafter "Nagy").
6. Regarding claim 1 and 7, AAPA discloses a liquid crystal display device having a liquid crystal display (LCD) panel and a transparent protection plate (pg. 1, lines 14-20).

Although AAPA teaches a clearance defined between the LCD panel and the transparent protection plate filled with a silicone sheet (pg. 3, lines 1-6) that has a shock-absorbing quality, AAPA fails to disclose this sheet as being nontacky.

Barish discloses an LCD (fig. 5, ref. 26) with a nontacky silicone sheet (fig. 2, ref. 14).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have placed a nontacky silicone sheet between the LCD panel and the transparent protective plate since one would be motivated by ease of replacement (col. 3, lines 10-15). Furthermore, the Nagy reference, which also utilizes a nontacky substances, teaches that they are advantageous because they are easy to use. For example, they are easy to apply, non-bubble-forming, and do not cause optical or cosmetic blemishes (col. 3, line 38 – col. 4, line 8).

7. Regarding claims 2-5, 8 and 10, AAPA et al. discloses a liquid crystal display device as recited above, however, the references fail to specifically disclose the silicone sheet having a surface roughness of 5 μm or less, a ball number of 2 or less, a hardness of 2 to 70, and a Young's modulus between 1×10^6 and 8×10^7 dyn/cm².

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have specified the silicone sheet with the aforementioned values and properties since they are convention and well know in the art. Furthermore, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re*

Aller, 105 USPQ 233. Moreover, Applicant has not disclosed anywhere how these particulars solve any stated problem or exist for any other purpose.

8. As per claim 16, AAPA discloses a method of making a liquid crystal display device having a liquid crystal display (LCD) panel and placing a silicone sheet (pg. 3, lines 1-6) that has a shock-absorbing quality. However, AAPA fails to disclose this sheet as being nontacky and fails to include air removal in the process.

Barish discloses an LCD (fig. 5, ref. 26) with a nontacky silicone sheet (fig. 2, ref. 14) and where air bubbles are removed or bypassed (col. 3, line 38 – col. 4, line 8).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have placed a nontacky silicone sheet between on the LCD panel in order to eliminate optical or cosmetic blemishes (col. 3, line 38 – col. 4, line 8).

9. As to claim 17, AAPA discloses a method of making a liquid crystal display device as recited above, however, AAPA fails to further disclose the step of removing foreign matters on the outer surfaces of the silicone sheet.

Barish discloses an LCD (fig. 5, ref. 26) with a silicone sheet (fig. 2, ref. 14) that is non tacky, particles will not stick and if so, will be easy to remove (col. 3, line 38 – col. 4, line 8).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to remove debris from the silicone sheet in order to eliminate optical or cosmetic blemishes (col. 3, line 38 – col. 4, line 8).

10. Claims 9 and 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA, Barish, Nagy, and in view of Shigemura (U.S. Patent No. 5,753,140).

AAPA et al. discloses the LCD device as recited above, however, the reference fails to specifically disclose an antireflection layer formed on the surface of the transparent protection plate, which in turn includes two transparent plates that sandwich a transparent electrode.

Shigemura discloses LCD device with an anti-reflection film (col. 4, lines 45-49) on the protective layer and transparent electrodes (col. 4, lines 54-56).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have an antireflection layer formed on the surface of the transparent protection plate since one would be motivated to maximize light transmission. Furthermore, it would have been obvious to one of ordinary skill in the art to include a transparent electrode between two transparent plates since one would be motivated to maximize light transmission as well as increase heat moisture resistance (col. 3, lines 14-18).

Allowable Subject Matter

11. Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance: As the claims were read and interpreted in light of the specification, the prior art of record fails to specifically disclose an LCD device with a silicone sheet having a length of 100mm, a width of 5mm, and a thickness of 2mm that when elongated in a longitudinal direction for 5 minutes and released to a pulling force, a rate of change of length is substantially 0%.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Y. Wang whose telephone number is 703-305-7242. The examiner can normally be reached on M-F, 8 am - 4:30 pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 703-305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

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gw
June 19, 2003


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SUPERVISORY PATENT EXAMINER
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